

REMARKS

Claim 13 has been amended as suggested by the Examiner at page 2 of the Official Action. Applicants appreciate the Examiner's suggestion in this regard, and the amendment has now been made.

Applicants again traverse the outstanding rejections, and request issuance of the presently pending claims.

The focus of the Final Rejection centers on Goldberg, and the disclosure therein. In Goldberg a surface of a material is exposed to GDP to activate and/or excite the surface. Manifestly, this exposure is not exposure in an oxidative atmosphere, as presently claimed. This is evidenced by Goldberg at column 4, lines 21-55 and column 8, lines 25-38, where exposure to oxygen is always *subsequent* to exposure. When oxygen is subsequently exposed to the activated and/or excited surface, Goldberg discloses the formation of peroxy and hydroperoxy groups, not surface carbonyl groups, or surface hydroxyl groups, as claimed. Upon exposure to the ethylenically unsaturated monomer, the surface is then irradiated with gamma or electron beam radiation to form a polymerized, chemically grafted surface modification. See col. 4, lines 22-51 of Goldberg. Thus, the ethylenically unsaturated monomer (or mixtures thereof) polymerized by gamma or electron beam irradiation, are covalently bonded to the active surface species resulting from the GDP surface treatment. Accordingly, a polymerized, chemically grafted modification is formed on the surface, and the surface is changed from hydrophobic to hydrophilic. In this sense, the activated surface species or sites provided upon exposure to GDP in Goldberg are used for forming a hydrophilic layer, and do not remain on the surface. Thus, the membranes produced by the method of Goldberg would provide an inadequate adhesion property between the membrane and an electrode.

In the present invention, on the contrary, surface carbonyl groups, surface hydroxyl groups, or surface carbonyl groups and surface hydroxyl groups, formed on a surface of a precursor membrane are not lost by graft polymerization, and remain on the membrane. Thus, the adhesion property resulting between the invention membrane and an electrode is improved, allowing for improved performance of, e.g., fuel cells. In this sense, the present invention process as presently claimed is substantially different from anything disclosed or suggested by the combination of references cited in the Official Action, and presents an invention that is patentably distinct from anything described in U.S. 6,242,123.

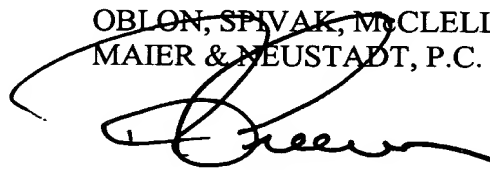
Applicants note several speculative statements on the part of the Office with regard to Goldberg. See page 4 of the Official Action. If these statements constitute the taking of Official Notice, Applicants here present the seasonable challenge discussed in the M.P.E.P., and request support for these statements. In this regard, Applicants note that Goldberg only discusses peroxy and hydroperoxy groups. Nowhere in the reference are the presently claimed surface hydroxyl groups and surface carbonyl groups mentioned or suggested. In addition, Applicants note that present Claim 13 is a method claim that requires exposing the surface of a precursor membrane to a plasma in an oxidative atmosphere to generate surface carbonyl groups and/or surface hydroxyl groups. Goldberg is fundamentally different in that exposure to GDP is *not* conducted in an oxidative atmosphere. It thus is to be expected that any subsequent exposure of the Goldberg material to oxygen would form different species.

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Accordingly, and in view of the above amendment and remarks, Applicants respectfully request the reconsideration and withdrawal of the outstanding rejections and the passage of this case to issue. Early notification to this effect is respectfully requested.

Respectfully submitted,

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